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SCIENTIFIC ASSESSMENTS

CONSIDERATION OF THE SECOND ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

Note by the secretariat

Revision

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I. INTRODUCTION

A. Mandate

1. At its first session, in 1995, the Subsidiary Body for Scientific and Technological Advice (SBSTA) expressed strong support for the Intergovernmental Panel on Climate Change (IPCC) as one of the independent and prominent sources of scientific and technical information relevant to the implementation of the Convention, as specified in Article 9 of the Convention (FCCC/SBSTA/1995/3). It noted that the IPCC would adopt its Second Assessment Report at its December 1995 session. It was recognized that this would include important information for the Convention, and would require priority attention at the second and future sessions of the SBSTA to enable it to provide relevant advice to the Ad Hoc Group on the Berlin Mandate (AGBM) as necessary (FCCC/AGBM/1995/2, para. 19 (f)) and to the Conference of the Parties (COP). The secretariat was requested to prepare a document for consideration by the SBSTA, identifying issues and suggesting the future inputs that may be needed including those relevant to the AGBM process. In response to this, the secretariat provided a note on the Second Assessment Report, including possible action by the SBSTA at its second session. For production reasons, this document was made available in English only. At its second session, the SBSTA held an initial exchange of views on the Second Assessment Report (FCCC/SBSTA/1996/8, paras. 18-32). It concluded, inter alia, that it would have a full consideration of this Report at its third session, in keeping with its mandate. In order to assist the SBSTA in its further discussions, the secretariat is re-issuing this revised version of document FCCC/SBSTA/1996/7 and its three addenda so as to have it available in all languages. Apart from editorial adjustments, two significant changes have been introduced:

(a) Section V of FCCC/SBSTA/1996/7 which suggested possible action has been deleted since this is superseded by the discussions and conclusions as reflected in the report of the second session (FCCC/SBSTA/1996/8);

(b) Information on publication of the Second Assessment Report has been updated. The text of the addenda have not been changed.

B. Scope of the note

2. The Second Assessment Report was adopted by the IPCC at its eleventh plenary session held in Rome from 11 to 15 December 1995. The Report, to be published under the title "IPCC Second Assessment: Climate Change 1995", comprises some 2,000 pages and includes a multitude of figures and tables and more than 10,000 references.

3. The purpose of this note is to provide an overview of the wealth of information contained in the Report with a view to facilitating its use by the SBSTA. It provides some general information on the Report, and its three addenda give more detailed information on the inputs provided by the three IPCC Working Groups.

II. STRUCTURE OF THE SECOND ASSESSMENT REPORT

4. Each of the three IPCC Working Groups -- Working Group I on Scientific Assessment, Working Group II on Impacts, Adaptation and Mitigation, and Working Group III on Economic and Social Dimensions -- has contributed to the Report. In addition, a Synthesis Report has been drawn up, based on the work of all three Groups, relating to the interpretation of Article 2 of the Convention. Thus the full Report, under the title "IPCC Second Assessment: Climate Change 1995", will comprise four volumes, as follows:

Volume 1 **The IPCC Second Synthesis Assessment of Scientific - Technical Information Relevant to Interpreting Article 2 of the United Nations Framework Convention on Climate Change**

5. This is an independent text, which was approved by the IPCC after a full government review process. Copies of the complete text, in all languages, will be available to members of the SBSTA. Some information on its contents is given in section IV below.

Volume 2 **The Science of Climate Change: Contribution of Working Group I of the IPCC**

6. This volume comprises a Summary for Policymakers and a Technical Summary supported by 11 chapters on relevant scientific issues prepared by teams of scientists with expert knowledge in their respective fields. Only the Summary for Policymakers, copies of which will be available to members of the SBSTA and the COP in all languages, has been subject to the full government review process. The Technical Summary and the supporting chapters remain the responsibility of the scientists concerned, but have been the subject of worldwide peer review. Information on the contents of this volume is given in document FCCC/SBSTA/1996/7/Add.1/Rev.1.

Volume 3 **Scientific-Technical Analyses of Impacts, Adaptations and Mitigation of Climate Change: Contribution of Working Group II of the IPCC**

7. This volume comprises a Summary for Policymakers, together with a Technical Summary and 28 supporting chapters relating to impacts, adaptation and mitigation of climate change in relation to a wide variety of ecosystems and sectoral and cross-sectoral activities,including the energy sector, again prepared by teams of experts. The Summary for

Policymakers, which has been subject to full government review and approval, will be available to members of the SBSTA and the COP in all languages. Information on the contents of this volume is provided in document FCCC/SBSTA/1996/7/Add.2/Rev.1.

Volume 4 **Economic and Social Dimensions of Climate Change: Contribution of Working Group III of the IPCC**

8. This volume comprises a Summary for Policymakers and 11 supporting chapters on relevant topics prepared by teams of specialists. The Summary for Policymakers was approved after full government review and will be available to members of the SBSTA and the COP in all languages. Information on the contents of this volume is provided in document FCCC/SBSTA/1996/7/Add.3/Rev.1.

Inventories

9. It should be noted that work on inventories of greenhouse gases and related methodological development is not covered by or included in the Report. It forms part of the current work of the IPCC and will continue in close cooperation with the Convention secretariat, at least until the end of 1997. Some information on this work is given in document FCCC/SBSTA/1996/6.

III. GENERAL OBSERVATIONS

A. Introduction

10. The IPCC Second Assessment Report will serve as an authoritative source of the best available information on the science, impacts, technological options and economics of climate change. Those interested in learning about - and acting upon - climate change will now have access to the best information that the scientific community can offer at this time.

11. In addition to being of general use to the work of the Convention, the IPCC Second Assessment Report is of direct relevance to the current work under the Convention, as demonstrated by the requests of the Ad Hoc Group on the Berlin Mandate (AGBM) to the IPCC to provide information on, inter alia, quantified emission limitation and reduction objectives and on policies and measures.

12. Among the new findings in the Report, the findings that "climate has changed over the past century" and that "the balance of evidence suggests a discernable human influence on global climate" are of particular interest to the policy process since they state facts and imply human responsibility for them. The Convention is designed to assist Governments in providing a global response.

B. Availability of the Report

13. The Synthesis and the three Summaries for Policymakers will be available in all six languages of the United Nations and are expected to be available for the third session of the SBSTA and for the second session of the Conference of the Parties (COP 2). The published texts of the supporting chapters may also be available, in English only: it is expected that the texts of Working Group I will be available by the end of May 1996, those of Working Group II by the beginning of May 1996 and those of Working Group III by the end of June or the beginning of July 1996. The Report is being published by Cambridge University Press.

C. Representativeness of the Report

14. The Second Assessment Report was drawn up by some 2,000 leading scientists and technical experts from about 130 countries. Teams of authors responsible for the preparation of each supporting chapter included scientists from the developing countries. The Report took two and a half years to prepare and is the most comprehensive evaluation of current scientific, technical, and socio-economic research on climate change since the First Assessment Report in 1990; it is truly global in scope.

D. Review process

15. The Report has been subject to IPCC peer review, involving Governments, scientists and other specialists, and governmental and non-governmental organizations. Diverging scientific and technical views have been reflected. The Technical Summaries of Working Groups I and II as well as the chapters supporting the three Summaries for Policymakers have undergone extensive peer review and, while remaining the responsibility of the respective authors, have been accepted by the IPCC plenary session.

16. The Second Assessment Synthesis on Article 2 and the three Summaries for Policymakers have received full governmental review and approval.

E. Use of the Report

17. Although the SBSTA and the COP will have before them only the Synthesis Report and the three Summaries for Policymakers in all languages, it is clear that decision makers should make maximum use of the entire Second Assessment Report including the Technical Summaries and the supporting chapters. Members of the SBSTA and the COP should therefore consult with their colleagues, acting as IPCC focal points, for access to the texts and appropriate briefing and advice as necessary.

F. Contents of the Report

18. The Second Assessment Report contains a wealth of information which will be a challenge to read, assimilate, and digest in full. The Assessment Synthesis and the three Summaries for Policymakers provide a broad picture of the scope of the Second Assessment Report. The three addenda to this document have been prepared in an attempt to make the Report more accessible to delegates. They provide "road-maps", which should make it easier for delegates to find their way though the wide range of issues covered. The addenda also highlight some of the information in the Report. They are not intended to provide an interpretation of the findings or to serve as a replacement for the IPCC texts, but rather to constitute an invitation to consult the Summaries and supporting chapters. It is hoped that these highlights will be of some assistance to delegates.

G. Limitations of the Report

19. Given the manner in which the Second Assessment Report was drawn up, it is not surprising that considerable differences in style and presentation are evident throughout. Likewise, the level of detail varies. In some cases certain assumptions, particularly as concerns scenarios, differ. Even the IPCC definition of climate change, which includes climate variability, differs from that of the Convention (see annex III of document FCCC/SBSTA/1996/7/Add.1/Rev.1, which provides a glossary of terms). These and other aspects will have to be taken into account by the SBSTA.

IV. THE ASSESSMENT SYNTHESIS OF SCIENTIFIC-TECHNICAL INFORMATION RELEVANT TO INTERPRETING ARTICLE 2 OF THE CONVENTION

20. The Assessment Synthesis presents information on the scientific and technical issues related to the interpretation of Article 2 of the Convention, drawing on the underlying IPCC Second Assessment Report. Since the Synthesis is not simply a summary of that Report, the Summaries for Policymakers of the three IPCC Working Groups should also be consulted.

21. The ultimate objective of the Convention, as expressed in Article 2, "is to achieve ... stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."

22. As indicated in the Synthesis, the challenges presented to the policymaker by Article 2 are to determine what concentrations of greenhouse gases are to be regarded as "dangerous anthropogenic interference with the climate system" and to chart a future which allows for

economic development that is sustainable. The purpose of this Synthesis is to provide scientific, technical, and socio-economic information that can be used, inter alia, in addressing these challenges. It is based on the 1994 and 1995 reports of the IPCC Working Groups.

23. The Synthesis takes up the various issues addressed in Article 2. It first briefly summarizes the degree of climate change - the "interference with the climate system" - that is projected to occur as a result of human activities. It then goes on to highlight what is known about the vulnerabilities of ecosystems and human communities to likely climate changes, especially in regard to agriculture and food production and other factors such as water availability, health and the impact of sealevel rise, which are important considerations for sustainable development. The task of the IPCC is to provide a sound scientific basis that will enable policymakers to better interpret dangerous anthropogenic interference with the climate system.

24. Given the current trends of increasing emissions of most greenhouse gases, atmospheric concentrations of these gases are likely to increase throughout the next century and beyond. With the growth in such concentrations of greenhouse gases, interference with the climate system will grow in magnitude, and the likelihood of adverse impacts from climate change that could be judged dangerous will become greater. Therefore, possible pathways of future net emissions are considered which might lead to stabilization at different levels, and the general constraints these imply. This consideration forms the next part of the Synthesis, and is followed by a summary of the technical and policy options for reducing emissions and enhancing sinks of greenhouse gases.

25. The Synthesis then addresses issues related to equity and to ensuring that economic development proceeds in a sustainable manner. This involves considering, for instance, estimates of the damage likely to be caused by climate change impacts, and the impacts, including costs and benefits, of adaptation and mitigation. Finally, a number of insights from available studies point to ways of taking initial action even if, at present, it is difficult to decide upon a target for atmospheric concentrations, including time-frames, that would prevent "dangerous anthropogenic interference with the climate system".

26. Decisions with respect to Article 2 of the Convention involve three distinct but interrelated choices: stabilization level, net emissions pathway, and mitigation technologies and policies. The Synthesis presents available scientific and technical information on all three choices. It also notes where uncertainties remain regarding such information.

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